

Reference Object
Bogue Inlet – The Point
(2003 – 2014)

6/11/03
Low Tide (11:19 am)



CRC Inlet Management Study Public Meeting

NOAA Administration Building, Beaufort, N.C. – March 12, 2014

North Carolina Coastal Geomorphology



20 to 21 Inlets Total - roughly *twelve* are routinely dredged

- some have more riverine input,
 - some are tied to specific drainage patterns, and
 - some are more ephemeral in nature.
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- some (2) are maintained as deep draft navigation thoroughfares,
 - some are maintained as shallow draft channels.

5 to 6 Inlets Located North of Cape Lookout – generally drain/flush huge expansive drowned-river estuaries.

15 Inlets Located South of Cape Lookout - for the most part drain much smaller estuarine systems (*sans* Cape Fear).

Coastal Hazards



Sandbags - *Most* of the State's permitted sand-bag sites are located along the shoulder of inlets.

Erosion Rates - *Most* of the highest "erosion" rates are also located within these same areas (inlet shoulders).

In fact, *most* of the threats to public infrastructure, private property, and the environment garnering the attention of the CRC and the public at-large are related to inlets.

However, these areas constitute a *small percentage* of the State's entire open oceanfront and inlet shorelines.

- We've picked our battles and should be using all the methods and tools necessary.
- Current rules don't do a great job of differentiating the inlet vs. oceanfront.

CRC & Stakeholder Dilemma

"Each inlet is different – we need more flexibility in the rules" YET "keep it simple"

“OCEANFRONT”

Drivers (1) sand supply, (2) sea level, & (3) storms (freq. & duration).

“INLET”

Shorelines affected by inlet processes (tidal amplitude, tidal prism, tidal dominance), & channel orientations.

REQUIRE DIFFERENT MANAGEMENT APPROACHES

Projected Inlet shoreline in
absence of sandbags

Two Very Different Types of Shorelines

(geomorphology & process)

Deep Draft Inlets

(Morehead City and Wilmington Harbors)



U.S. Corps of Engineers responsible for maintaining the Nation's waterways.

Mandated by 33 C.F.R. 335.7 to dispose of dredged material at the **least cost**.

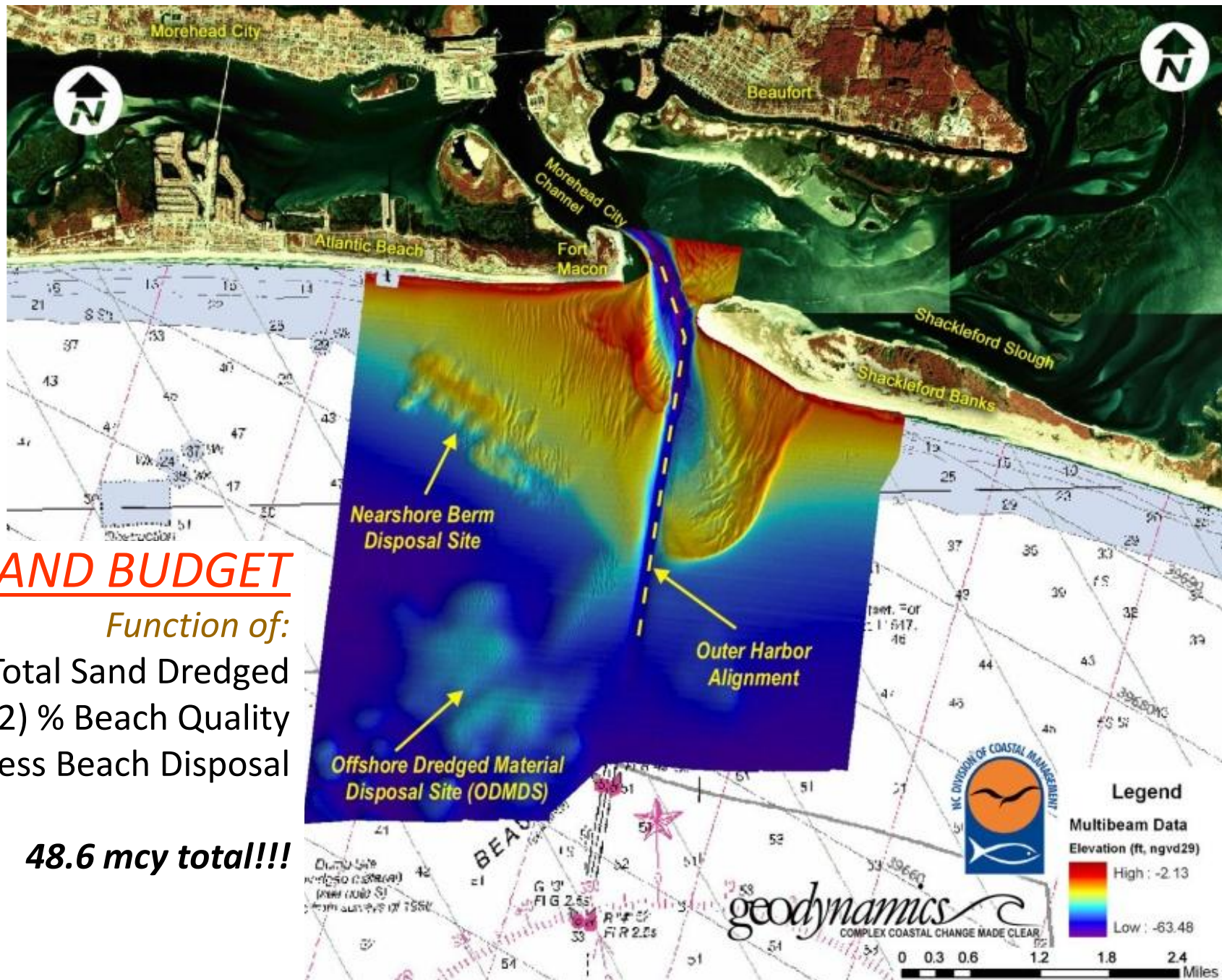
Abuse of policy & navigation servitude – Claiming that dumping material a mile or more offshore is inside the littoral system or “nourishing the ebb delta” is simply not true.

Beach Dumping – only performed under guise of least cost and is NEVER admitted as mitigation. --- *“Remember, this is a navigation project”*.

Abuse of policy & navigation servitude (part II) - 33 C.F.R. 335.7 states least cost, and **environmentally acceptable**, and **engineeringly sound**.

The Corps is mis-managing STATE RESOURCES and often local communities have to spend their own time, resources, and dollars to offset impacts of mismanaged sand.

Negative consequences associated with temporary sand bags/geotextile tubes, terminal groins, sand placement, etc. aimed to offset navigation impacts are microscopic compared to the overprint channel dredging/offshore dumping has on the system. *See the terminal groin report.



SAND BUDGET

Function of:

- (1) Total Sand Dredged
- (2) % Beach Quality
- (3) Less Beach Disposal

48.6 mcy total!!!

Deep Draft Inlets

(NO NET LOSS OF SAND POLICY)



CRC & GA need to adopt & enforce a “NO NET LOSS OF SAND POLICY”.

State has been clear on this issue - relies upon the Coastal Zone Management Act.

Requires Corps to comply to the “**maximum extent practicable**” with North Carolina’s Coastal Management Program.

When the Corps’ activities have a foreseeable effect on State coastal resources, the Corps must make a formal consistency determination and the State must concur.

In 1992, the State’s Coastal Management Program was amended to include a requirement that beach quality dredged material from navigation channels be used in a beneficial way wherever practicable and be retained in the littoral system to the maximum extent practicable.

Deep Draft Inlets

(maximum extent practicable has not worked)



Maximum extent practicable has failed

- NOAA fails to provide consistency.
- Corps has driven a truck through it.

Since 1992.....

- Morehead City deepened.
- Wilmington Harbor deepened.
- AND a new draft Dredged Material Management Plan (DMMP) for Morehead City.

Overwhelming majority of the sand is planned to be dumped well outside the 25 feet contour – not on the ebb delta nor on the adjacent beaches.

Should be completely unacceptable. Strengthen and enforce policy (e.g. Florida).

Establish sediment budget - all disposal material must be placed on adjacent beaches or the ebb delta to mimic this budget. Nodal points and hard structures...

INLET HAZARD AREAS

- Staff and the Science Panel were heading in the right direction with redefining the boundaries based upon the **standard deviation of shoreline change rates**.
 - **Keep setbacks simple and do not get involved with more “lines in the sand”**
 - (a) grandfather existing structures and allow them to rebuild to their original size if ever required,
 - (b) don't allow any new development further seaward than adjacent properties,
 - (c) lift the size restrictions for dwellings as long as they meet the minimum graduated setback requirements again using the first seaward line of existing dwellings as a “60 foot setback” demarcation.
 - **Temporary erosion control structures (sand bags) need to have a different set of standards if located in IHAs compared to the oceanfront.**
 - (a) Should be allowed well before structures are imminently threatened.
 - (b) Time limit for sandbags need to be reexamined (again) - in perpetuity until the solution (inlet realignment, hard structure, retreat etc.) is employed or the primary structure itself is destroyed.
- very little difference to an orphaned structure sitting on a State beach to that of an orphaned structure with sandbags sitting on a State beach. Moreover, it will save the State and property owners a tremendous amount of time and money involved with mind-numbing variance processes.

DEEP DRAFT & SHALLOW DRAFT IHAs



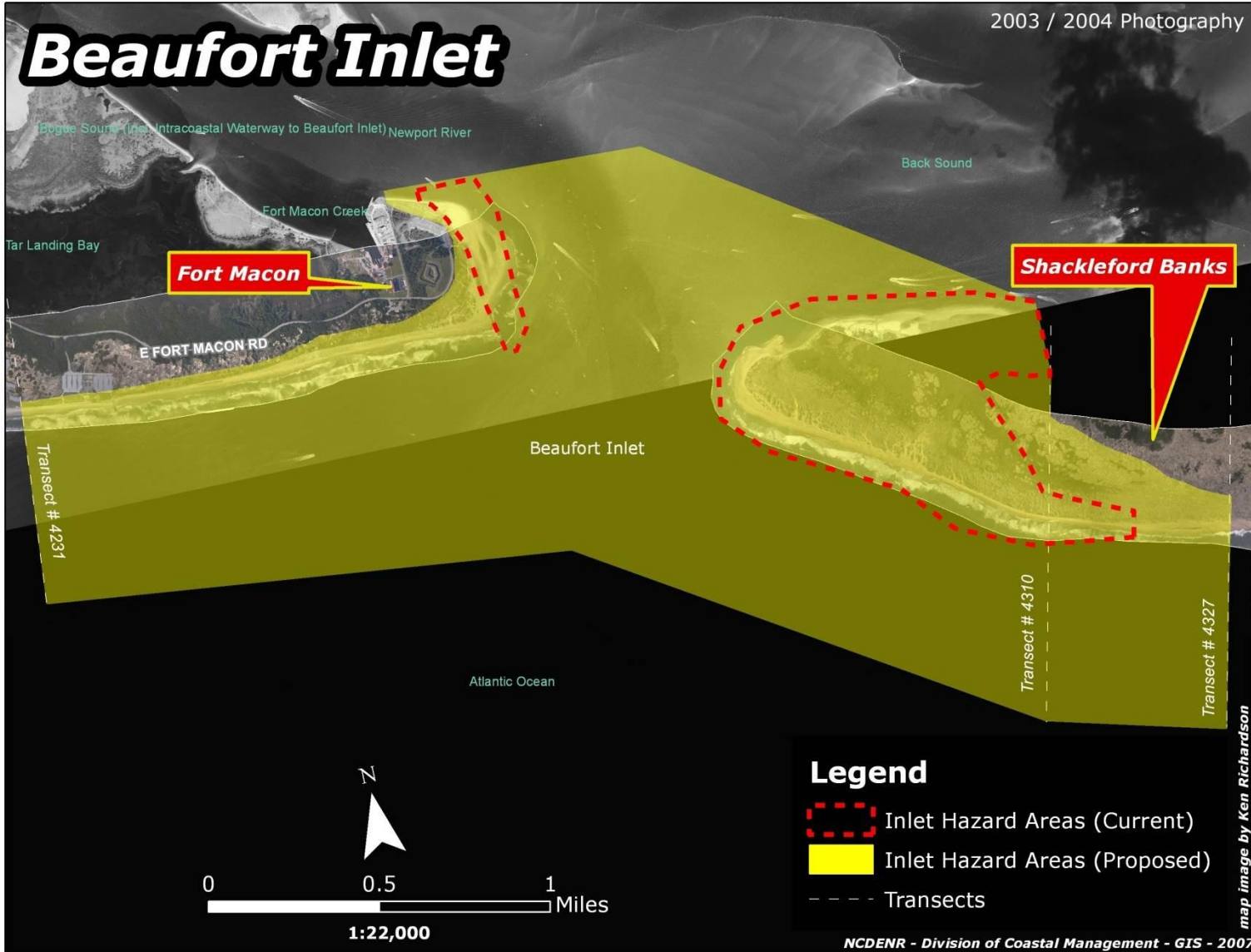
Deep-Draft IHA and Shallow-Water IHA - concept should be explored and the *boundaries should extend in the water, where issues related to dredging can be codified and enforced in policy.* IHA boundaries currently do extend into the water but are more of a token rather than representing any type of substantive boundary.

Deep-Draft IHA - the issues in terms of removing sand from littoral system, mimicking the sediment budget, hard structures, mitigation, etc. can all be addressed using this vehicle (in addition to the development standards on land).

*Incorporating these policies into the State's enforceable Coastal Management Program could be used to keep the Corps consistent and in-line with State policy and what the State actually desires.

Shallow-Water IHA - should also be extended into the water and this could help guide channel realignment projects and terminal groin proposals (plus development standards).

DEEP DRAFT & SHALLOW DRAFT IHAs



Miscellaneous

- (1)** Beneficial use of dredged materials.
- (2)** Dredging windows / moratoria.
- (3)** Channel Realignments, dredging depths, and sediment criteria rules.
- (4)** Development standards / erosion setbacks / local vs. state authorities.
- (5)** Volumetric triggers for “static lines”.
- (6)** Emergency permitting: beach bulldozing and sandbags.
- (7)** Terminal groins and sand bypassing.
- (8)** Erosion rate calculations for Inlet Hazard Areas.
- (9)** Dune creation in the IHA .
- (10)** Monitoring conditions associated with various projects.